PD CLC/TR 50656:2016

BSI Standards Publication

SPD application in conjunction with Class II equipment

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National foreword

This Published Document is the UK implementation of CLC/TR 50656:2016.

The UK participation in its preparation was entrusted by Technical Committee PEL/37, Surge Arresters - High Voltage, to Subcommittee PEL/37/1, Surge Arresters - Low Voltage.

A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL REPORT

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English Version

SPD application in conjunction with Class II equipment

Parafoudres destinés à être utilisés avec des équipements classe II

SPD Anwendungen in Verbindung mit Schutzklasse II

This Technical Report was approved by CENELEC on 2015-12-14.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (CLC/TR 50656:2016) has been prepared by CLC/TC 37A “Low voltage surge protective devices”.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Introduction

Based on questions and requests from the field it was felt necessary to provide some guidance and instructions how and in which applications currently available SPDs according to EN 61643-11 can be correctly and safely applied in conjunction with class II equipment and in installations, where the protective measure double or reinforced insulation is applied (see HD 60364-4-41 and EN 61140).

In general current SPDs according EN 61643-11 are designed to properly protect wherever:

— basic insulation is required e.g. between active parts and the protective equipotential bonding system (PE) (the SPD bridges basic insulation in such applications);

— basic or functional insulation is required e.g. between active parts of different potential (the SPD bridges basic or functional insulation in such applications).

The requirements currently contained in EN 61643-11 do not cover requirements for SPD applications, where the SPD bridges double or reinforced insulation, like e.g. between primary and secondary side of an isolating transformer (protective separation) or between active parts and touchable conductive surfaces of class II equipment.

There are attempts to develop requirements for such SPDs, but for the time being there is no defined solution.

This document refers to HD 60364-4-41 for topics related to installation rules and to EN 62368-1 for some equipments related topics.

This document specially addresses installation issues related to street lighting.

1 Scope

In addition to CLC/TS 61643-12, this Technical Report describes the principle of erecting SPDs to be connected to 50 Hz a.c. power circuits, rated up to 1 000 V r.m.s. in conjunction with Class II equipments.

In addition to EN 61643-11, this Technical Report gives specific guidance for SPDs intended to be installed in class II equipments.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50539-11:2013, *Low-voltage surge protective devices - Surge protective devices for specific application including d.c. - Part 11: Requirements and tests for SPDs in photovoltaic applications*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*[1]

EN 60664-1, *Insulation coordination for equipment within low-voltage systems — Part 1: Principles, requirements and tests (IEC 60664-1)*[2]

EN 60950-1, *Information technology equipment — Safety — Part 1: General requirements (IEC 60950-1)*[3]

EN 61643-11:2012, *Low-voltage surge protective devices — Part 11: Surge protective devices connected to low-voltage power systems — Requirements and test methods (IEC 61643-11:2011)*[4]

EN 62368-1:2014, *Audio/video, information and communication technology equipment — Part 1: Safety requirements (IEC 62368-1:2014, modified)*[5]

HD 60364 (all parts), *Low-voltage electrical installations (IEC 60364, all parts)*[6]

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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1 http://www.cenelec.eu/dyn/www/f?p=104:110:695920932773601::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1258025,43747,25

2 http://www.cenelec.eu/dyn/www/f?p=104:110:379108178804401::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1258497,50513,25

3 http://www.cenelec.eu/dyn/www/f?p=104:110:1457986987015001::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1257189,53711,25

4 http://www.cenelec.eu/dyn/www/f?p=104:110:592568428155801::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1258617,43963,25

5 http://www.cenelec.eu/dyn/www/f?p=104:110:785888442943801::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1257189,60205,25

6 http://www.cenelec.eu/dyn/www/f?p=104:110:437816408653901::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1257163,57623,25